

Etanorm 100-080-250 GB
 ETN 100-080-250-GBKAA11 GSFFX2EHB

Operating point 1 Dimensioning operating point

Operating conditions (purchaser requirements)

Target flow rate	200 m ³ /h	Vapour pressure determined	0.0234 bar.a
Target mass flow rate	55.44 kg/s	Minimum inlet pressure required	-0.3 bar
Target head	72 m	Specified ambient temperature	20 °C
Fluid	Water, drinking water / tap water	Installation altitude above sea level	1'000 m
Fluid variant	Tap water		
Specified fluid temperature	20 °C		
Density Fluid handled	998 kg/m ³		
Kinematic viscosity Fluid handled	1 mm ² /s		

Operating conditions (performance)

Flow rate	100.01 m ³ /h	Maximum power input at duty point	28.14 kW
Minimum permissible flow rate	27.22 m ³ /h	Maximum power input / curve	41.07 kW
Head	72.01 m	Pump speed	2'965 1/min
Shut-off head	74.89 m	Discharge pressure-max.	7.33 bar
Efficiency Pump	69.6 %		
NPSH required	3.08 m		

Operating point 2

Operating conditions (purchaser requirements)

Target flow rate	200 m ³ /h	Vapour pressure determined	0.0234 bar.a
Target mass flow rate	55.44 kg/s	Specified ambient temperature	20 °C
Target head	35.7 m	Installation altitude above sea level	1'000 m
Fluid	Water, drinking water / tap water		
Fluid variant	Tap water		
Specified fluid temperature	20 °C		
Density Fluid handled	998 kg/m ³		
Kinematic viscosity Fluid handled	1 mm ² /s		

Operating conditions (performance)

Flow rate	99.99 m ³ /h	Maximum power input at duty point	12.68 kW
Minimum permissible flow rate	19.71 m ³ /h	Maximum power input / curve	15.73 kW
Head	35.7 m	Pump speed	2'148 1/min
Shut-off head	39.25 m	Discharge pressure-max.	3.84 bar
Efficiency Pump	76.5 %		
NPSH required	2.63 m		

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Design data pump

Scope of supply Pump supplied by KSB	Pump + coupling + coupling guard + baseplate + motor	Mains voltage	400 V
Pump standard	EN 733	Mains frequency	50 Hz
Design according to regulation	Drinking water	Minimum efficiency index MEI	0.7
Shaft axis position	Horizontal	Minimum permissible fluid temperature	0 °C
Pump design	Long-coupled (basepl-mounted)	Maximum permissible fluid temperature	60 °C
Pump system design	2 x 50 % peak-load operation	Quantity Stages, single-entry	1
Specification of wetted parts	Manufactured without paint wetting impairment substances	Casing wear ring design suction-side	Flat
Pump direction of rotation, viewed from casing side	Counterclockwise	Casing wear ring design discharge-side	Flat
Impeller diameter D2	225 mm	Installation chamber Casing cover	Conical (A-type cover)
Impeller type	Radial, closed, multi-channel	Bearing bracket size / shaft unit	35
Free passage	15.8 mm	Bearing bracket type	Bearing bracket
Nut lock for Impeller	No	Bearing bracket design	Medium
Swirl break	No	Pump bearing type, non-drive end	Anti-friction bearing
		Pump bearing type, drive end	Anti-friction bearing
		Lubrication type	Grease lubrication
		Bearing seal Pump	V-ring
		Pump directive	CE

Nozzle connections pump

Nominal diameter Suction nozzle	DN 100	Nominal diameter Discharge nozzle	DN 80
Nominal pressure Suction nozzle	PN 16	Nominal pressure Discharge nozzle	PN 16
Suction nozzle position	Axial	Discharge nozzle position	0 deg
Suction nozzle design acc.to	EN1092-2	Discharge nozzle design acc.to	EN1092-2
Suction flange bolt hole pattern as per standard	EN1092-2	Discharge flange bolt hole pattern as per standard	EN1092-2
Flange facing type Inlet	Raised face (B,RF)		
Flange facing type Outlet	Raised face (B,RF)		

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Auxiliary connections pump

6B Fluid Drain	G 3/8 Drilled and plugged
6D Fluid Filling and venting	G 3/8 Drilled and plugged
8B Leakage Drain	G 1/2 Drilled

1M Pressure gauge	Without
Discharge nozzle	Without
1M Pressure gauge Suction nozzle	Without

Shaft sealing

Shaft seal type	SMS A-type cover
Piping plan	API plan 03
Determined pressure Seal chamber	0.13 bar

Shaft seal code	Code 11
Shaft seal manufacturer inboard	KSB's choice
Mechanical seal type inboard	1
Material Shaft seal inboard	BQ1EGG-WA

Materials

Material Volute casing (102)	EN-GJL-250/A48 CL 35B
Material Casing cover (161)	EN-GJL-250/A48 CL 35B
Material Shaft	C45+N
Material Impeller (230)	CC480K DW
Material Casing wear ring suction-side (502.01)	JL/LAMELLAR GRAPHITE CAST IRON
Material Casing wear ring discharge-side (502.02)	JL/LAMELLAR GRAPHITE CAST IRON
Material Shaft protecting sleeve (523)	(CRNIMO ST INT)
Material Bearing bracket (330)	EN-GJL-250/A48 CL 35B
Material Static seal Discharge cover	DPAF DW001

Material Bolts/Screws	8.8
Hydraulic casing (902.01)	
Material Screw plug Hydraulic casing	ST
Material Static seal Screw plug Volute casing	A4/AISI 316
Material Nut Impeller fastening (920.95)	(CRNIMO ST INT)
Material Key	1.4571+C/A276 TP 316 COND B

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Driver

Electric motor	Yes	Rated speed Motor	2'955 1/min
Drive concept	With electric actuator	Number of motor poles	2
Drive standard, mechanical	IEC	Rated power Motor	37 kW
Drive standard electric	IEC	Motor power reserve determined	31.5 %
Motor bearing, insulated	No	Rated voltage Motor	400 V
Motor manufacturer	KSB's choice	Motor winding	400 / 690 V
Customer supply Drive	No	Rated frequency Motor	50Hz
Motor construction type	IM B3 (IM1001) IEC 60034-7	Motor switching type	Delta
Motor alignment	No	Rated current Motor	68.7 A
Motor size	200L	Starting current ratio Ia/In	8.8
Efficiency class	IE3 (Premium)	Cos phi at 4/4 load	0.8
Material motor housing	AL	Motor efficiency at 4/4 load	93.7 %
Enclosure Motor	IP55	Motor service factor	1.13
Thermal class	155 (F) nach IEC 60085	Directive Drive	CE
Temperature sensor motor	3 PTC thermistors		
Terminal box position of motor (looking at the motor shaft)	360 Grad		
Operation on a frequency inverter permitted	Yes (acc to motor manufact)		
Sound pressure level Motor	78 dBa		
Type series Motor manufacturer	Acc. to motor manufacturer		

Installation parts / Accessories

Coupling

Coupling type	ROFLEX N
Coupling manufacturer	KTR
Nominal size Coupling	110

Coupling guard

Coupling guard type	Light (ZN79)
Nominal coupling guard size	A148
Material Coupling guard	ST+Z

Baseplate

Baseplate type	Folded plate/U-section
Material Installation part Pump	(ST)
Baseplate size	7A
Drill baseplate at motor end	Yes



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Coating

Aggregate

Surface preparation
Properties Primer coat
Thickness Primer coat
Properties Top coat
Thickness Top coat
Colour Top coat

Free from dirt, grease, rust
Hydro dip primer, water-dilutable
60 µm
Acrylate dispersion water-thin
40 µm
RAL5002 Ultramarine Blue

Packaging

Suitable for transport	Truck transport
Suitable for storage	Indoor storage
Packaging category	KSB's choice (A0)

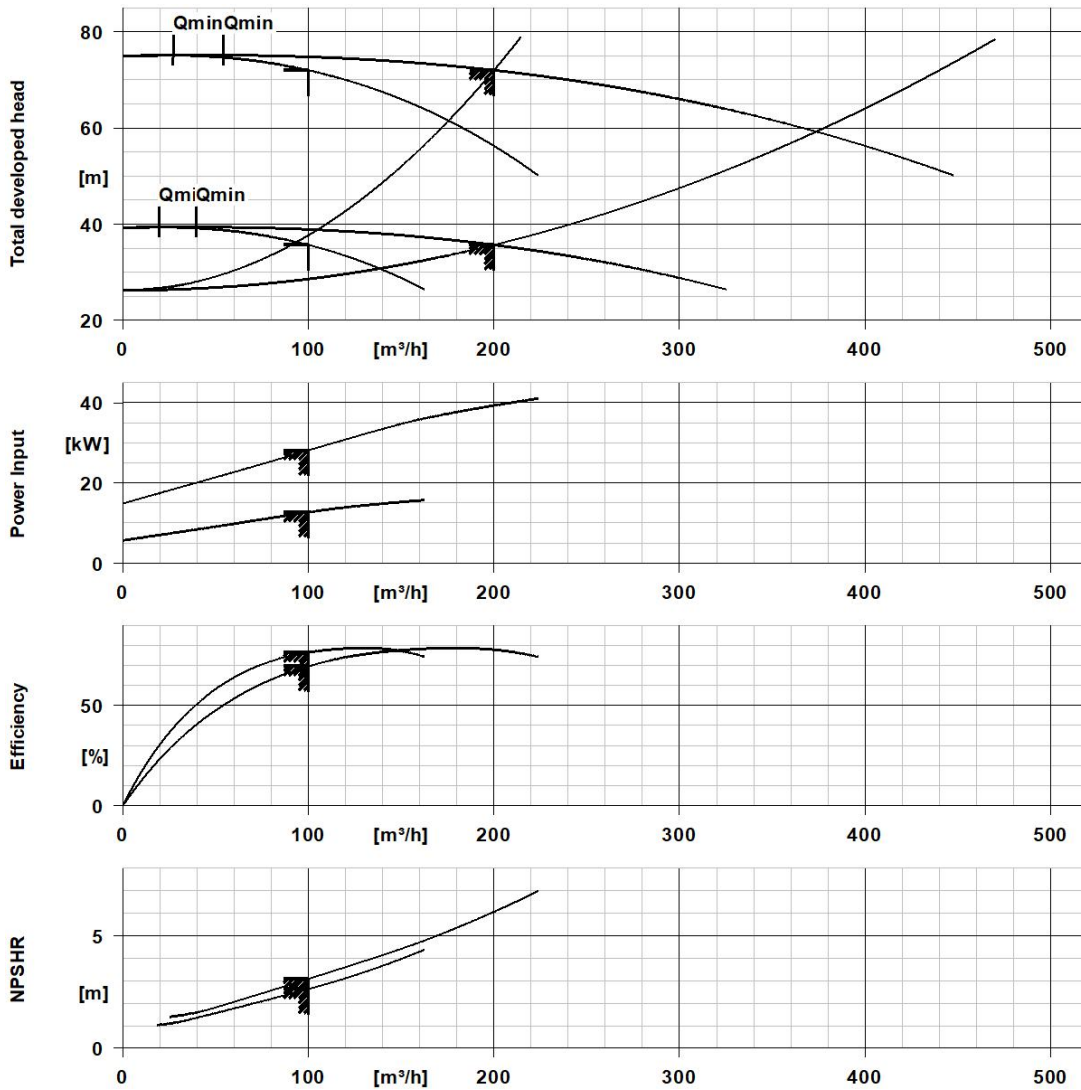
Nameplates

Duplicate name plate	No
Material Installation part Pump (ST)	

Performance Curve (Pump)



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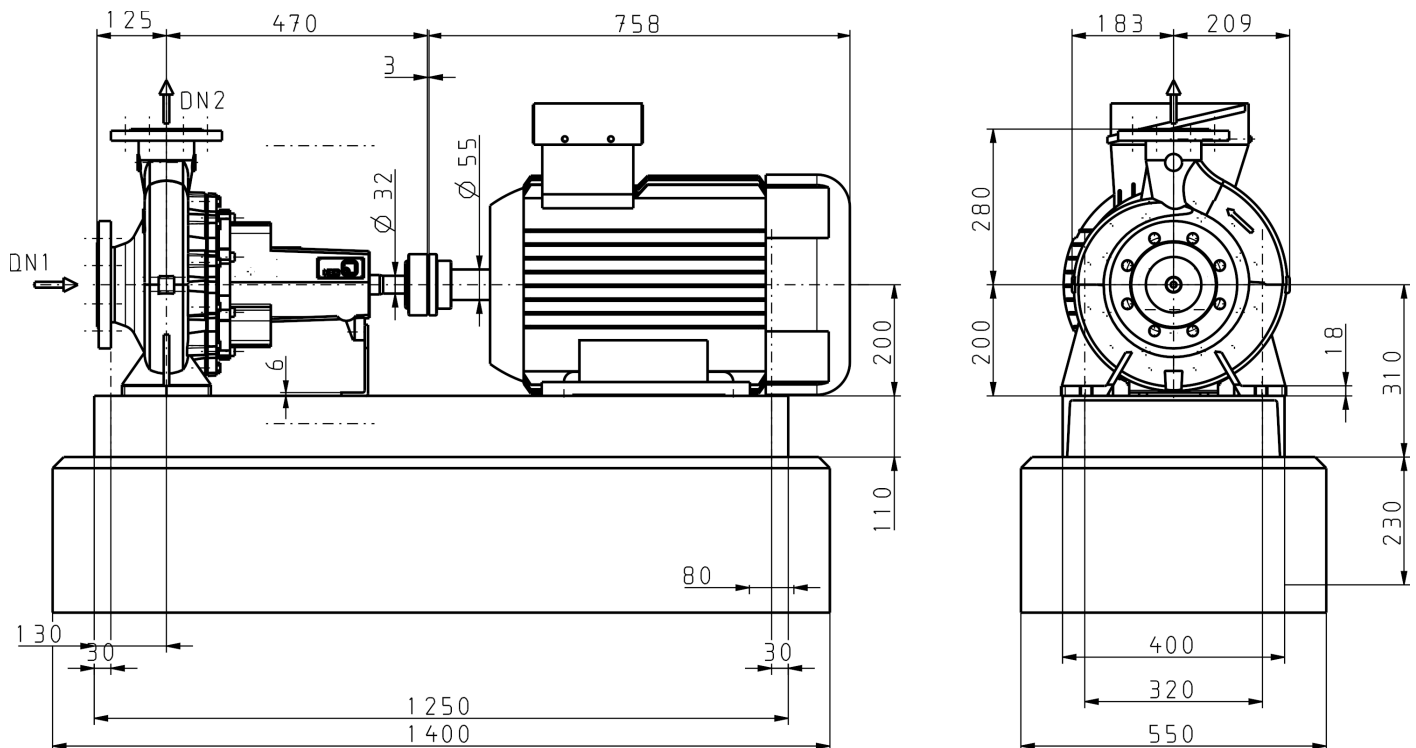


Curve Data

Pump speed	2'965 1/min	Efficiency Pump	69.6 %
Density Fluid handled	998 kg/m ³	Minimum efficiency index MEI	0.7
Kinematic viscosity Fluid handled	1 mm ² /s	Maximum power input at duty point	28.14 kW
Flow rate	100.01 m ³ /h	NPSH required	3.08 m
Head	72.01 m	Hydraulic impeller diameter	224.7 mm
		Hydraulic calculation according to standard/class	EN ISO 9906 Class 2B

According to EN ISO 9906, §4.4.2 (pump input power below 10 kW)

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Drawing is not to scale.

Dimensions are given in mm

Motor

Motor manufacturer	KSB's choice
Motor size	200L
Rated power Motor	37 kW
Number of motor poles	2
Rated speed Motor	2'955 1/min
Terminal box position of motor (looking at the motor shaft)	360 Grad

Baseplate

Baseplate type	Folded plate/U-section
Baseplate size	7A

Connections

Nominal diameter Suction nozzle	DN 100
Suction flange bolt hole pattern as per standard	EN1092-2
Nominal diameter Discharge nozzle	DN 80
Discharge flange bolt hole pattern as per standard	EN1092-2
Nominal pressure Suction nozzle	PN 16
Nominal pressure Discharge nozzle	PN 16

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Coupling

Coupling manufacturer	KTR
Coupling type	ROFLEX N
Nominal size Coupling	110

Net weight

Total weight Pump	92.4 kg
Total weight Installation parts	91.33 kg
Total weight Coupling	3.9 kg
Total weight Contact guard	0.53 kg
Total weight Drive	250 kg
Total weight Pump set	438.2 kg

Connect pipelines stress-free

Dimensional tolerances for shaft axis height: DIN 747
Dimensions without tolerances, middle tolerances to: ISO 2768-m
Connection dimensions for pumps: EN735
Dimensions without tolerances - welded parts: ISO 13920-B
Dimensions without tolerances - gray cast iron parts: ISO 8062-CT9

Plan for additional connections see extra drawing

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Etanorm (ETN) low-pressure centrifugal pump, standardised pump made by KSB

Horizontal single-stage volute casing pump, single-stage, ratings to EN 733, radially split volute casing, volute casing with integrally cast pump feet, long-coupled design. The pump is designed with replaceable casing wear rings, closed radial impeller with multiply curved vanes, single mechanical seal or double mechanical seals to EN 12756, shaft equipped with replaceable shaft protecting sleeve in the shaft seal area. The back pull-out design allows the coupling, bearing brackets and impeller to be dismantled without the need to disconnect the pump casing from the piping.

Compliant with ErP Directive 2009/125/EC. Meets the ecodesign requirements established in 2015 for water pumps with a maximum shaft power of 150 kW as per EU regulation 547/2012; the MEI values (min. ≥ 0.4) are documented on the name plate and in the data sheet

Component type series	KSB Etanorm [B]
Fluid	Eau, eau potable / eau de ville
Maximum specified fluid temperature	20 °C
Maximum permissible fluid temperature	60 °C
Density Fluid handled	998 kg/m ³
Kinematic viscosity Fluid handled	1 mm ² /s
Flow rate	100.01 m ³ /h
Head	72.01 m
Maximum power input at duty point	28.14 kW
NPSH required	3.08 m
Nominal pressure Discharge nozzle	PN 16
Nominal pressure Suction nozzle	PN 16
Nominal diameter Suction nozzle	DN 100
Nominal diameter Discharge nozzle	DN 80
Motor size	200L
Rated frequency Motor	50Hz
Rated voltage Motor	400 V
Motor power P1	0 kW
Rated power Motor	37 kW
Rated current Motor	68.7 A
Pump speed	2'965 1/min
Number of motor poles	2
Temperature sensor motor	3 PTC thermistors
Thermal class	155 (F) nach IEC 60085
Enclosure Motor	IP55
Motor switching type	Delta
Mains type Motor	Three-phs alternating current
Motor winding	400 / 690 V
Efficiency class	IE3 (Premium)
Motor canopy	No
Temperature class Drive	Without

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Motor manufacturer	KSB's choice
Baseplate type	Folded plate/U-section , 7A
Coupling type	ROFLEX N , 110
Coupling guard type	Light (ZN79) , A148
Properties Top coat	Hydro dip primer, water-dilutable
Colour Top coat	RAL5002 Ultramarine Blue
Total film thickness approx.	100 µm
Design concept	GB
Material Volute casing	EN-GJL-250/A48 CL 35B
Material Casing cover	EN-GJL-250/A48 CL 35B
Material Shaft	C45+N
Material Impeller	CC480K DW
Material Bearing bracket	EN-GJL-250/A48 CL 35B
Material Casing wear ring suction-side	JL/LAMELLAR GRAPHITE CAST IRON
Material Casing wear ring discharge-side	JL/LAMELLAR GRAPHITE CAST IRON
Material Shaft protecting sleeve	(CRNIMO ST INT)
Material Bolts/Screws Hydraulic casing	8.8
Material Nut Impeller fastening	(CRNIMO ST INT)
Shaft/Stem seal	Inboard SM seal
Shaft seal manufacturer inboard	KSB's choice
Mechanical seal type inboard	1
Material Shaft seal inboard	BQ1EGG-WA
Shaft seal type	SMS A-type cover
Installation chamber Casing cover	Conical (A-type cover)
Operation on a frequency inverter permitted	Yes (acc to motor manufact)
Installation code	3 Feet below, long baseplate (for pump and drive, also gearing)
Total weight Pump	92.4 kg
Total weight Pump set	438.2 kg
Product description	KSB Etanorm [B] , 100-080-250 , ETN 100-080-250-GBKAA11 , GSFFX2EHB

Accessories

Etanorm 100-080-250 GB
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General Information

Drive standard, mechanical	IEC
Drive standard electric	IEC
Motor manufacturer	KSB's choice
Type series Motor manufacturer	Acc. to motor manufacturer
Material number Motor	00000000001583918
Motor construction type	IM B3 (IM1001) IEC 60034-7
Motor size	200L
Number of motor poles	2
Motor flange	Without
Total weight Drive	250 kg
Material motor housing	AL
Enclosure Motor	IP55
Thermal class	155 (F) nach IEC 60085
Temperature sensor motor	3 PTC thermistors
Operation on a frequency inverter permitted	Yes (acc to motor manufact)
Motor cooling method	Surface cooling
Direction of rotation Drive	Bi-directional
Motor bearing, insulated	No
Maximum ambient temperature	20 °C
Sound pressure level Motor	78 dBa

Motor Options

Anti-condensation heater	No
Motor canopy	No
Motor connector plug	Without
Certificate electrical test motor	Without
Tropicalisation Motor	No

Motor Approvals

Directive Drive	CE
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Explosion Protection

Explosion protection directive Drive	Without
Temperature class Drive	Without



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